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ABSTRACT

The present study is one example of how statewide minimum competency testing programs can be used to examine minority student achievement trends. The results of 3 years of Texas Assessment of Basic Skills (TABS) test administration (1980-82) were examined for Black, Hispanic, and White students. The results were expected to be consistent with current National Assessment of Educational Progress (NAEP) trends such that: (1) Black students would improve their test scores at an increased rate relative to White students, and (2) Hispanic students would also improve their test scores at an increased rate relative to Whites. The average number of objectives mastered at the third and fifth grade level, and percentage of ninth grade students achieving total test mastery, was calculated for Black, Hispanic, and White student performance in mathematics and reading for all years of testing. Black, Hispanic, and White students all demonstrated improved performance across 3 years of testing. Black students increased their rate of improvement relative to Hispanics, and at the third and fifth grade level, began to surpass Hispanic reading performance. Low Hispanic performance was most evident in regions without major urban centers experiencing significant immigration from Mexico. (Author/PN)

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ETHNIC PERFORMANCE TRENDS ON THE TEXAS ASSESSMENT OF BASIC SKILLS TESTS

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Ethnic Performance Trends on the Texas Assessment of Basic Skills Tests

Introduction

Many states have recently established minimum competency testing programs as part of a "back to the basics" movement following the decline of student scores on national norm-referenced achievement tests (Griffin, 1978; Jaeger, 1982). One of the primary goals of this movement was to establish the accountability of schools for student learning outcomes. The Texas Assessment of Basic Skills (TABS) in reading, mathematics, and writing originated in Texas in 1980 as one such program. The TABS tests were developed as criterion-referenced tests, i.e., each item is keyed to a specific learning objective that is considered essential for Texas students to learn. At present, the TABS tests are administered annually at the third, fifth and ninth grade level.

One important criticism of norm-referenced tests which criterion-referenced tests such as the TABS hope to address is that of test bias against minority students. For example, Samuda (1975) states that ethnic minorities are the ones who "suffer most in the invidious comparisons with normative groups from a different social and economic background," and refers to criterion-referenced testing as the hope for the future of minority students. Harris and Aprey (1982) also emphasize that criterion-referenced assessment represents a movement towards effective testing of minority children.

Criterion-referenced minimum competency tests programs such as the Texas Assessment of Basic Skills may thus represent an important first step towards assessing minority student achievement on the state and local level. Recent national assessments of student achievement such as the National Assessment of Educational Progress (NAEP, 1981) have already demonstrated that minority students are beginning to make significant gains in educational achievement. Burton and Jones (1982) examined the NAEP data and concluded that minorities, in this instance Blacks, are "closing the gap" between themselves and White students in basic skills areas, particularly reading. Black students in this study demonstrated a significant decrease in achievement differences relative to white students with advancing year of birth in all learning areas at all age levels. Hispanic students also exhibited NAEP score improvement, but this effect was weakened due to factors such as the emmigration and thus slower assimilation of Hispanic students into the American culture.

The present study is one example of how statewide minimum competency testing programs can be used to examine minority student achievement trends such as those reported by NAEP. The results of three years of TABS test administration (1980, 1981, 1982) were examined for Black, Hispanic, and Anglo students. The results were expected to be consistent with current NAEP trends such that: 1) Black students

would improve their test scores at an increased rate relative to White students, and 2) Hispanic students would also improve their test scores at an increased rate relative to Whites. However, the strength of this effect for Hispanics would be weaker than for Blacks, due to factors such as emmigration.

Method

The average number of objectives mastered at the third and fifth grade level, and percentage of ninth grade students achieving total test mastery, was calculated for Black, Hispanic, and White student performance in mathematics and reading for all years of testing. There are 10 mathematics and 8 reading objectives at the third grade level, 12 mathematics and 11 reading objectives at the fifth grade level, and both 11 mathematics and reading objectives at the ninth grade level. The TABS writing tests contain a written composition which has significantly contributed to performance variance, therefore they were omitted from this analysis.

Three year performance trends (1980, 1981, 1982) at the state level were examined for fifth and ninth grade students. As third grade students did not participate in the TABS program until 1981, data for two years of testing was examined.

Black, Hispanic, and White student performance in terms of average number of objectives mastered was also examined by Educational Service Center (ESC) region. Three types of regions were included: 1) Regions bordering Mexico without major urban centers, 2) Regions bordering Mexico (see footnote 1) with major urban centers, and 3) Regions not bordering Mexico with major urban centers.

Results

Chart I displays the total test mastery percentages attained by ninth grade Black, Hispanic, and White students in mathematics and reading. All three ethnic groups demonstrated improved performance on the TABS tests from 1980 to 1982, with Black and Hispanic students improving at a higher rate in both mathematics and reading than White students. Although a larger percentage of Hispanic than Black students attained total test mastery levels for all three years, the total rate of improvement from 1980 to 1982 was slightly greater for Blacks.

Chart II displays the average number of objectives mastered by fifth grade Black, Hispanic, and White students in mathematics and reading. All three ethnic groups showed improved performance from 1980 to 1982. Blacks and Hispanics demonstrated an increased rate of improvement relative to Whites. Similarly to the ninth grade students, Black fifth grade students attained a lower average number of objectives mastered than Hispanics in mathematics for all three years, yet had a greater total rate of improvement. By 1982, Black students surpassed Hispanics in average number of fifth grade reading objectives mastered.

Chart III indicates the average number of objectives mastered by third grade Black, Hispanic and White students. Again, all three groups improved their TABS performance from 1981 to 1982. Black and Hispanic student performance gains were greater than those for White students. The Black rate of improvement in performance was also greater than that of Hispanics. Black students attained a higher number of average number of objectives mastered in reading than Hispanics for both years.

Charts IV, V, and VI represent the average number of mathematics and reading objectives mastered by Hispanic students by ESC region at grades 3, 5, and 9 respectively for all years of testing. Regions 1, 15, and 18 border Mexico. Regions 2 (see footnote 1), 19, and 20 border Mexico and contain major urban centers. Regions 4, 10, and 11 contain major urban centers and do not border Mexico.

Hispanic students in regions bordering Mexico without large urban centers attained a consistently lower average number of objectives mastered than Hispanics in border regions with urban centers or regions not bordering Mexico with urban centers.

Discussion

Black, Hispanic, and White students all demonstrated improved performance on the Texas Assessment of Basic Skills tests across three years of testing. Black students increased their rate of improvement relative to Hispanics, and at the third and fifth grade level began to surpass Hispanic reading performance. Low Hispanic performance was most evident in regions experiencing significant emmigration from Mexico without major urban centers.

These results are consistent with current NAEP trends (NAEP, 1981; Burton and Jones, 1982). Black students in Texas as well as nationally are beginning to close the gap between themselves and White students in their achievement test scores, and in third and fifth grade reading are surpassing Hispanic performance. An examination of TABS scores by region indicates that Hispanic performance in nonurban areas near Mexico may be one possible source of lower test scores for this group.

This analysis of course represents an examination of global trends for the majority of the Texas students which take the TABS tests. Many factors which may affect TABS test performance need further investigation, preferably within a context which would permit casual inferences. For example, TABS data could be examined in terms of the types of variables, such as home environment or school attendance, as was performed in a study of the North Carolina minimum competency tests (Smith, Stuck, and Johnston, 1982).

These trends indicate a number of important points for educators in Texas to consider. The results for Black students in this study as well as on the NAEP assessment are very encouraging. Further

research is necessary in order to determine what factors; for example, social programs for Black students, are causing improvement (as suggested by Burton and Jones, 1982). The indications of slower improvement for Hispanic students relative to Blacks, particularly in reading, also warrants further study. This project suggests that Burton and Jones' (1982) hypothesis that assimilation may be a factor in Hispanic test performance is correct. Hopefully, educators and researchers in Texas as well as on the national level will work together to investigate means of improving Hispanic performance on future assessments such as the TABS tests.

These general performance trends indicate that Texas schoolchildren are improving in the basic skills areas of mathematics and reading. This project is also illustrative of one way in which criterion-referenced testing may be an effective means for evaluating minority achievement. It is hoped that the results of the TABS tests will be utilized at the individual level for remedial purposes, and at the group level for determining trends that can be encouraged or improved through local curriculum.

1. Region 2 does not border Mexico, but experiences significant emmigration from this area.

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CHART I

GRADE 9

PERCENTAGES OF NINTH GRADE STUDENTS MASTERING THE TOTAL EXIT LEVEL MATHEMATICS AND READING TESTS FOR THREE ETHNIC GROUPS

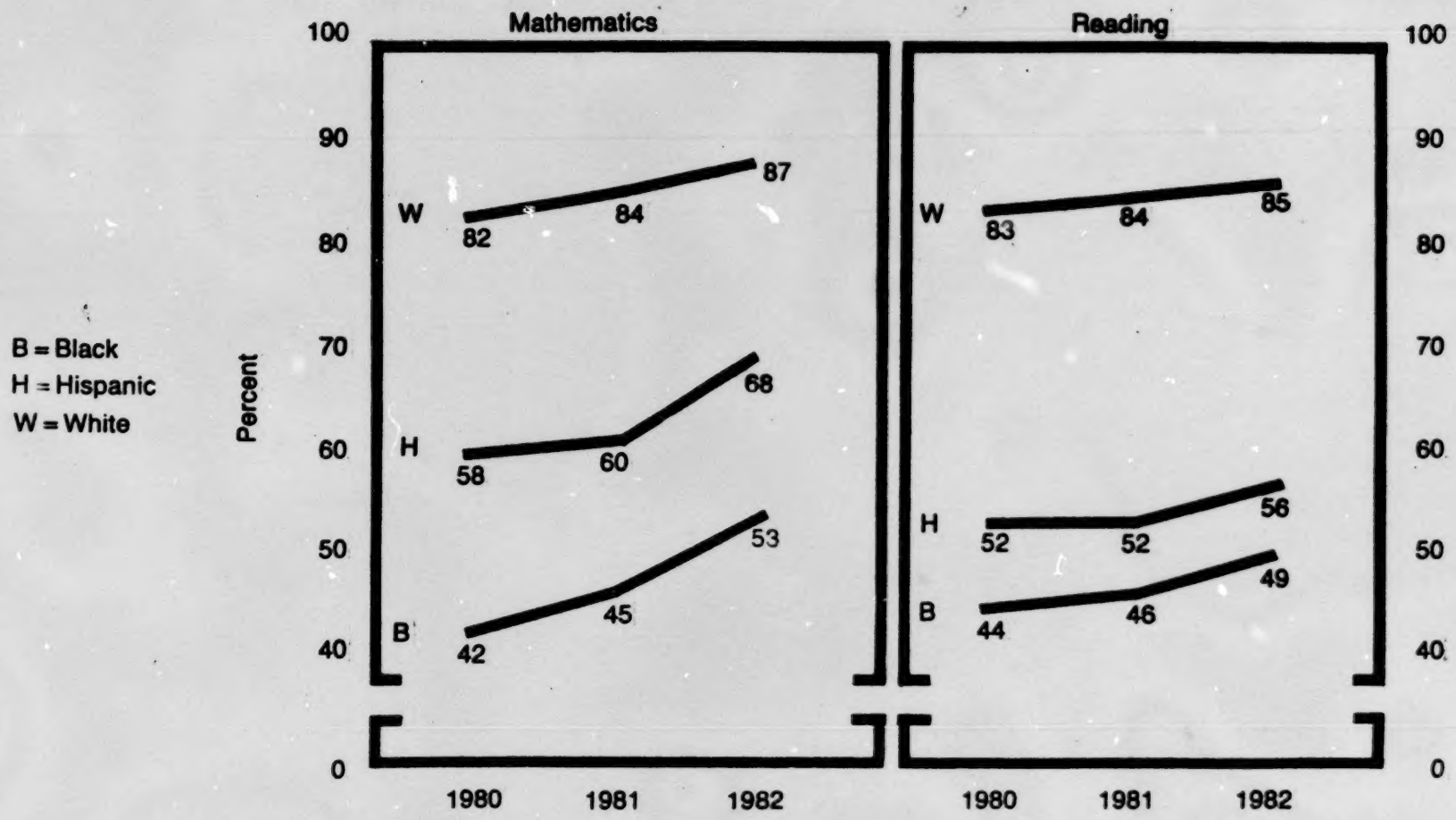
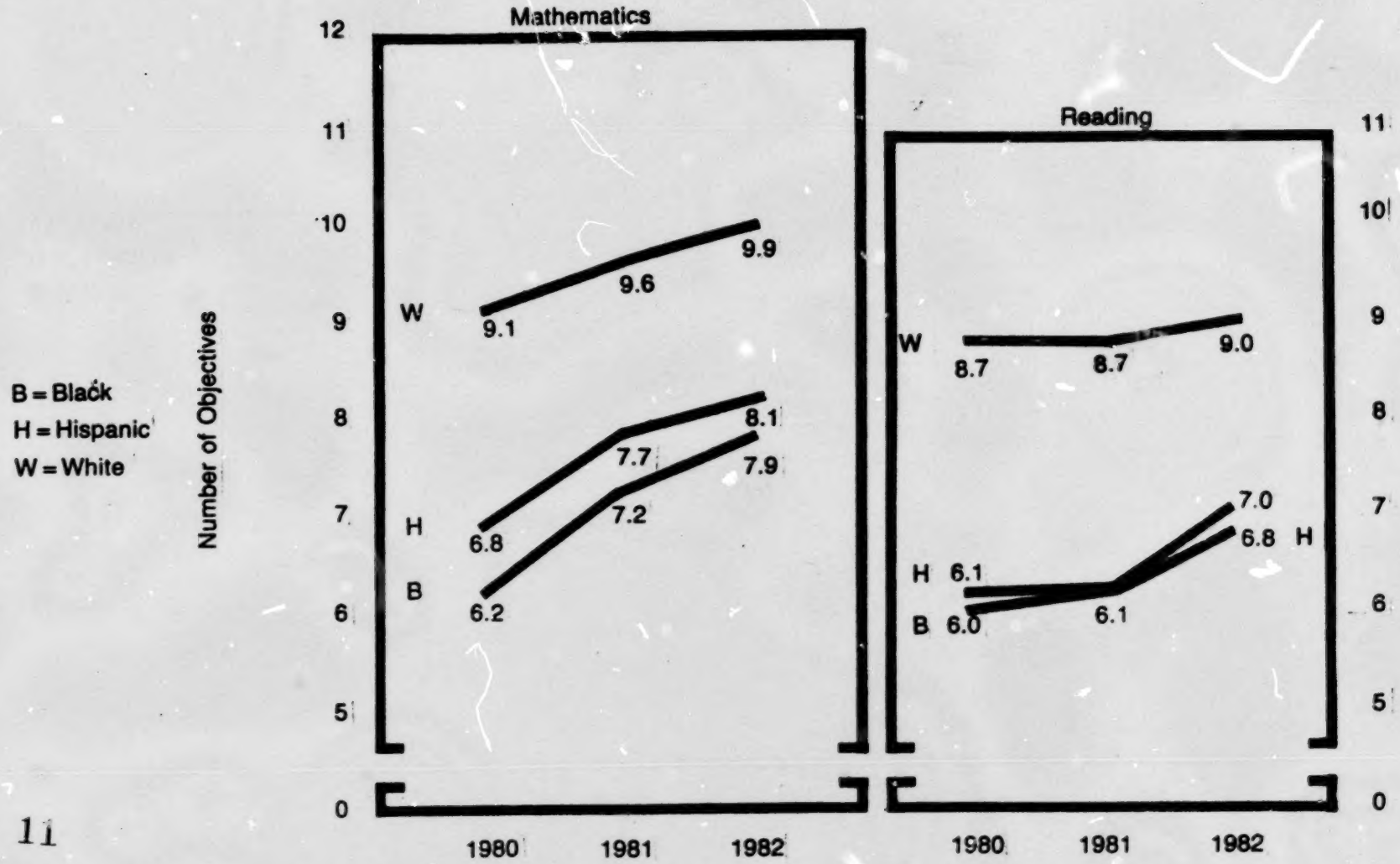


CHART II

GRADE 5

AVERAGE NUMBER OF MATHEMATICS AND READING OBJECTIVES MASTERED BY FIFTH GRADE STUDENTS FOR THREE ETHNIC GROUPS

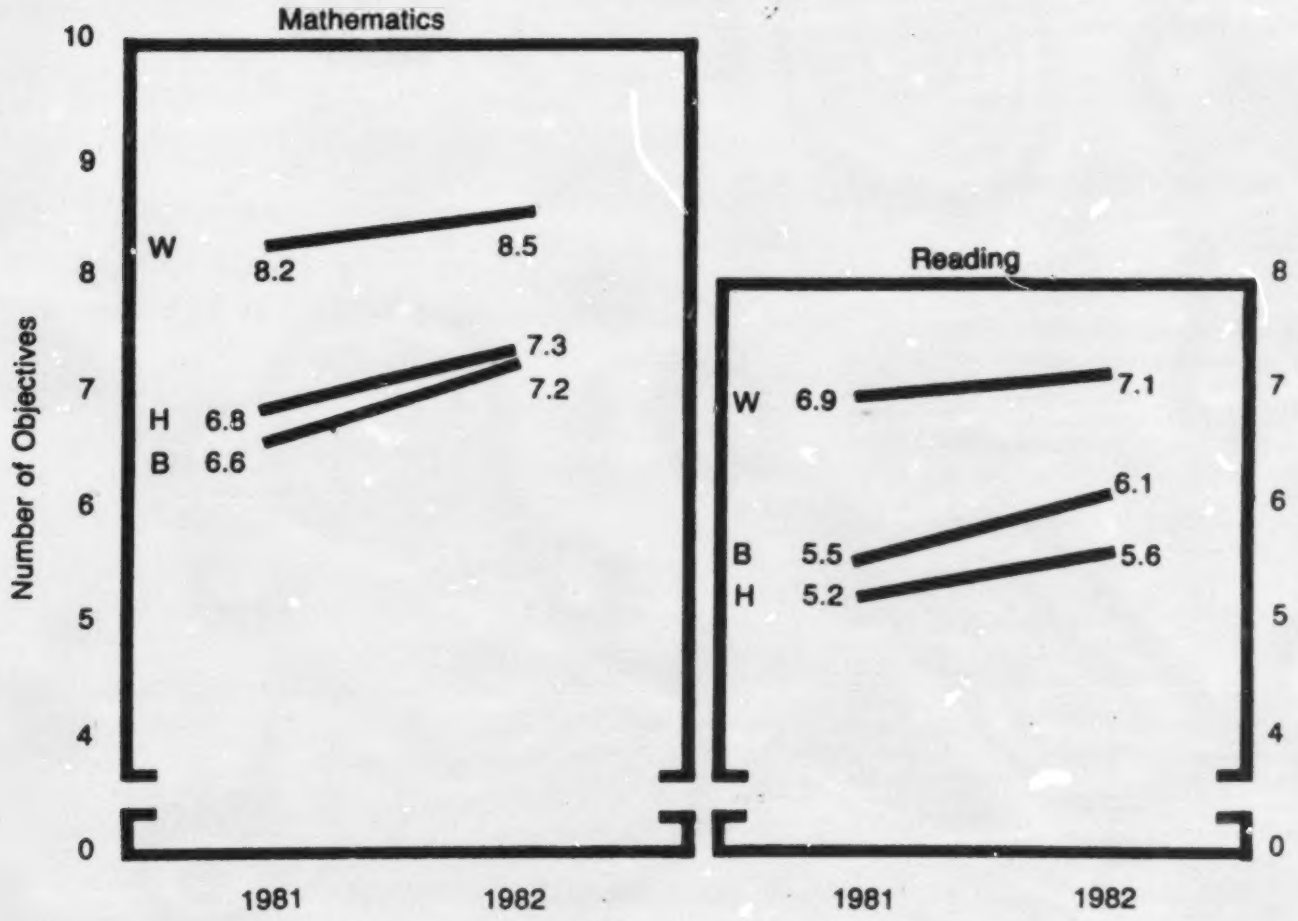


B = Black
H = Hispanic
W = White

CHART III

GRADE 3

AVERAGE NUMBER OF MATHEMATICS AND READING OBJECTIVES MASTERED BY THIRD GRADE STUDENTS FOR THREE ETHNIC GROUPS



B = Black
H = Hispanic
W = White

CHART IV

GRADE 3

AVERAGE NUMBER OF OBJECTIVES MASTERED

FOR HISPANICS BY REGION

		Math				Reading	
		1981	1982			1981	1982
Region	1	6.6	7.0	Region	1	4.7	4.9
	15	6.5	7.0		15	5.1	5.4
	13	6.7	6.9		18	5.3	5.4
	2	6.6	7.3		2	5.4	5.7
	19	6.7	7.5		19	5.0	5.3
	20	7.1	7.3		20	5.4	5.5
	4	6.8	7.2		4	5.3	5.6
	10	7.2	7.6		10	5.6	5.4
	11	7.1	7.2		11	5.5	5.5
State Average For Hispanics		6.8	7.3	State Average For Hispanics		5.2	5.4

CHART V

GRADE 5

AVERAGE NUMBER OF OBJECTIVES MASTERED
FOR HISPANICS BY REGION

		Math				Reading		
		1980	1981	1982		1980	1981	1982
Region	1	6.5	7.5	7.7	Region	5.6	5.6	6.1
	15	6.6	7.6	7.5		5.6	5.8	6.2
	18	6.6	7.4	7.6		6.0	5.8	6.3
	2	6.5	7.5	8.0		6.0	6.2	6.8
	19	7.1	7.6	8.2		6.1	6.0	6.6
	20	6.6	7.8	8.1		5.9	6.4	6.7
	4	7.3	8.0	8.1		6.5	6.4	6.9
	10	6.7	8.0	8.2		6.0	6.5	6.8
	11	7.0	7.9	7.9		6.4	6.6	6.9
State Average For Hispanics		6.8	7.7	8.0	State Average For Hispanics	6.0	6.1	6.6

CHART VI

GRADE 9

AVERAGE NUMBER OF OBJECTIVES MASTERED

FOR HISPANICS BY REGION

		Math				Reading		
		1980	1981	1982		1980	1981	1982
Region	1	6.7	6.9	7.4	Region	6.1	6.0	6.1
	15	6.8	7.0	6.9	15	6.0	6.0	5.9
	13	6.8	7.4	7.3	13	6.5	6.4	6.5
	2	7.0	7.4	7.6	2	6.7	6.9	6.9
	19	6.7	7.3	7.6	19	6.5	6.7	6.8
	20	6.3	6.7	7.2	20	6.2	6.3	6.4
	4	7.0	7.3	7.6	4	6.9	6.7	6.9
	10	6.3	7.1	7.4	10	6.5	6.6	6.3
	11	6.5	7.2	7.4	11	6.7	7.0	6.8
State Average For Hispanics		6.7	7.0	7.4	State Average For Hispanics	6.4	6.4	6.5